

WHAT IS CLAIMED IS:

1. A magnetron drive power supply comprising:

a commercial power supply;

a high-frequency inverter which converts electric power
5 of the commercial power supply into high-frequency power and
supplies the high-frequency power to a high-voltage transformer;

a high-voltage rectification circuit and a magnetron being
connected to secondary output of the high-voltage transformer;

zero-voltage detector which detects zero voltage of the
10 commercial power supply; and

controller which controls the high-frequency inverter in
response to output of the zero-voltage detector,

wherein the controller predicts the detection timing of
zero voltage by the zero-voltage detector in each period and
15 enables the output from the zero-voltage detector to be received
only for a given time before and after the predicted detection
timing.

2. The magnetron drive power supply as claimed in claim
1 wherein, when the given time before and after the predicted
20 detection timing contains a period in which the output from the
zero-voltage detector is not received, it is assumed that the
output from the zero-voltage detector is received, and
controlling the high-frequency inverter is continued.

3. The magnetron drive power supply as claimed in claim 2 wherein, when a period in which the output from the zero-voltage detector is not received occurs successively a stipulated number of times in the given time before and after the predicted detection timing, the controller stops the high-frequency inverter.

4. A magnetron drive power supply comprising a commercial power supply, a high-frequency inverter for converting electric power of the commercial power supply into high-frequency power and supplying the high-frequency power to a high-voltage transformer, a high-voltage rectification circuit and a magnetron being connected to secondary output of the high-voltage transformer, input current detector which detects a current value of the high-frequency inverter, and controller for controlling the high-frequency inverter, characterized in that if the detection value of the input current detector has a predetermined difference from a target value continuously for a given time, the controller stops the high-frequency inverter.

5. The magnetron drive power supply as claimed in claim 4 wherein the predetermined difference between the detection value of the input current detector and the target value is set in response to the target value.